



Arrhythmias

IMPORTANCE OF REDUCTION IN QRS DURATION IN CARDIAC RESYNCHRONIZATION

Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Arrhythmias: Devices II - Improving Outcomes in Patients with Implantable Devices: Tweaking the Well-Functioning Machine

Abstract Category: 8. Arrhythmias: Devices

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Objective: Following cardiac resynchronization therapy (CRT), the postoperative paced QRS duration may be more prolonged than the preoperative QRS (+QRS). The outcome of +QRS patients is unclear.

Methods: Analysis of 100 consecutive patients with successful CRT implantation.

Results: Thirty seven patients had a +QRS. These patients, compared with those with a -QRS, had a shorter baseline QRS (150 ± 0.15 vs. 176 ± 25.8 , $p = 0.05$) and more likely had an LV lead in the anterior/lateral ($n=10$, QRS $+28.5 \pm 34.4$ ms.) or posterior vein ($n=7$, QRS $+3 \pm 34.8$ ms.). Of 22 patients who improved by 2 NYHA classes, the mean difference in QRS was -18.1 ± 26.5 ms. Of 35 who improved by 1 class the mean QRS difference was -14.7 ± 23.35 ms. Of 35 who did not improve, the mean QRS difference was $+5.0 \pm 30.3$ ms. Of the 8 who worsened, the mean QRS difference was $+33 \pm 29.7$ ms. Regardless of baseline QRS, those with a -QRS had a higher likelihood of improved clinical outcomes (Table). Patients with a 3-6 month postoperative echo showed that compared with patients with a +QRS, patients with a -QRS had a higher mean LVEF ($38 \pm 3.5\%$ vs. 26.8 ± 9.1 , $p = 0.0046$) and smaller LVEDd (5.5 ± 0.9 cm vs. 6.15 ± 1.1 cm, $p = 0.0375$).

Conclusions: A -QRS, achieved in only 2/3 of CRT implantations, is associated with improved clinical outcomes regardless of baseline QRS duration. These patients have improved LV function and size. Measurement of the paced QRS at implantation, focusing on obtaining a -QRS, may improve outcomes in patients undergoing CRT. % patients improved.

Table. Clinical improvement with a + or - QRS according to baseline QRS.

